JobExchanger32

Manual

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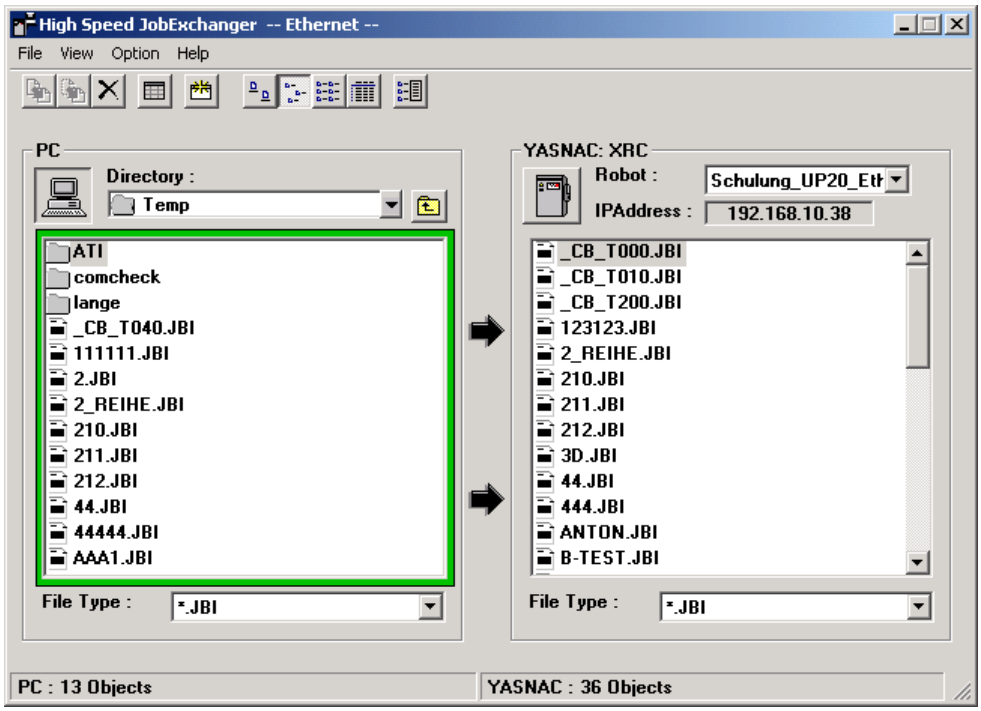
CHAPTER 1

General

Introduction



JobExchanger32 provides the following functions:

- Supports ERC, MRC, XRC and NX100.
- Access robot controller via serial or ethernet communication (not ERC).
- Download/Upload job data to robot controller.
- Download/Upload system data to robot controller
- Save parameter data.
- Support batch files to upload/download a user defined set of files.
- Display and printing file data.
- All functions are controlled by PC. Robot controller must be in Remote Mode.
- All storage devices of the PC can be used to store the robot data.

- Editing jobs is not possible with this software.

Components

The JobExchanger32 software is delivered with:

1 CD-ROM (ask for a floppy disk version)

1 Hardware key

1 RS232 serial cable; robot controller (9pol.) <-> PC (9pol.)

1 User Manual

The JobExchanger32 software package includes the computer communication option of the XRC robot controller

System requirements

- Windows-PC, Windows 9X/NT/2000/XP installed
- 10 MByte available space on hard disk
- CD-ROM device (or floppy disk)
- YASNAC NX100, XRC, MRC or ERC robot controller
- RS232 serial interface cable, max 15m (included)

CHAPTER 2

Hardware Settings

Connection between robot controller and PC

Data communication between PC and YEC robot controller is possible in two different ways.

- Serial communication (RS232C): 9600 bps
- Ethernet communication: 10 Mbps

Info : The maximum interface speed etween the communication partners is showed. The real speed may be smaller due to handshaking issues and syntax checks.

Serial data communication

For serial data communication a standard serial interface cable is neccessary. This cable provides 9pin or 25pin Sub-D connectors.

Connect one end of the cable at the RS232 interface of the robot controller. The other end must be attached to a serial port of the PC.

At XRC use the internal RS232 interface (XCP01, see cabinet door). It is not possible to use the RS232C interface at the teachbox with this software.

At MRC you can configure both RS232 interfaces for using with JobExchanger32 (see parameter settings).

Ethernet-communication

For communication via Ethernet the Ethernet option of the robot controller is neccessary. Ethernet option is not available for ERC.

Ethernet communication is not a standard option of the XRC or MRC robot controller like serial communication. For installing Ethernet option refer to the setup manual of the YASNAC extension board.

You also have to install Ethernet hard- and software on your PC.

Setup PC system

Serial data communication

With standard hardware on PC side you can use a maximum of 4 serial ports:

COM1, COM2, COM3 oder COM4

The following setting is recommended

Port	**I/O**	**IRQ**
COM 1	03F8	4
COM 2	02F8	3
COM 3	03E8	5
COM 4	02E8	9

Ethernet data communication

It is neccessary to install an Ethernet network interface card and the TCP/IP protocol. Before attempting to connect to YASNAC controller check if Ethernet is working properly on PC side.

Robot controller settings

To establish a connection a few parameters must be set on robot controller side.

Basic Settings

	XRC	NX100	MRC	Setting
Protocol	RS000=2	RS000=2	RS000=2	BSC Protocol
			RS001=2	
	-	RS029=1		Job/Variable Load in Playback

In case of MRC there are two serial interfaces available. RS000 is for the external, RS001 is for the internal connector. The values of RS000 and RS001 must be different.

The following parameter must be set in **Topmenu -> IN/OUT -> Pseudo Input Sign** :

CMD REMOTE SELECTION enabled

At MRC controller this setting must be specified in the Maintenance mode. ERC has no corresponding parameter.

Serial Communication

The parameter of the serial interface must be set according to settings specified in Jobexchanger:

	XRC	NX100	MRC	Setting
Data bits	RS30=8	RS030=8	RS030=8	8 Data bits
Stop bits	RS31=0	RS031=0	RS031=0	1 Stop bit
Parity	RS032=2	RS032=2	RS032=2	even Parity

Baud Rate	RS033=7	RS033=7 (8)	RS033=7	9600 (19200) Baud
Timer A	RS034=30	RS034=30	RS034=30	
Timer B	RS035=200	RS035=200	RS035=200	
ENQ Retry	RS036=10	RS036=10	RS036=10	
Data Retry	RS037=3	RS037=3	RS037=3	

For the ERC controller the following table lists the parameters:

	ERC	ERC	Setting
Version	->4.00	4.20->	
Data bits	RS00=8	RS020=8	8 Data bits
Stop bits	RS01=0	RS021=0	1 Stop bit
Parity	RS02=2	RS022=2	even Parität
Baud Rate	RS03=32	RS023=32	4800 Baud

Ethernet-communication

In case of communicating via Ethernet interface the ip address information must be specified:

Ethernet = Used

IP ADDRESS = 192.168.10.10*

SUBNET MASK = 255.255.255.0*

DEFAULT GATEWAY = 192.168.10.1*

SERVER ADDRESS = 0.0.0.0*

* The above settings are only exemplary. If the PC has the ip address 192.168.10.11/255.255.255.0 the above settings lead to a successfull communication (assuming a proper physical connection with hubs, switches or cross over cable). The communication on TCP/IP level can be checked by using the ping command.

For a more detailed description refer Ethernet manuals.

Mode selection

MotoAdmin can only access the robot controller if the controller is running in remote mode.

In case of ERC/MRC/XRC Remote Mode can be set by selecting the remote button at the controller cabinet.

At NX100 there is a switch at the programming pendant. The Remote position of the switch represents Remote/Play mode. MotoAdmin allows switching to Remoe/Teach mode.

CHAPTER 3 *Installation*

All neccessary software data is stored on the JobExchanger32 CD-ROM.

With a single license you are allowed to access a maximum of four robot controllers from one PC.

It is recommended that for each robot a different directory is used to save robot data.

z.B. C:\Line1\Robot1

C:\Line1\Robot2

C:\Line1\Robot3

...

Install software

- Insert JobExchanger32 CD-ROM in your CD-ROM drive. Setup program starts automatically.
- If autorun is not active select START -> Run -> <CD-ROM drive>:\JobExchanger32\setup

During installation you can choose the program directory. Per default JobExchanger32 is installed in *C:\Program Files\JobExchanger32*

You can also select the program manager group, in which MotoAdmin should be installed. If you do not change the given setting JobExchanger32 is installed in the Motoman group.

Don’t forget to attach the hardware key to the parallel interface of your PC. In case of using an usb hardware key attach the key after installing the software.

Uninstall

To uninstall the software open windows control panel and select software. Select JobExchanger32 out of the list of installed software and click on the Uninstall button

Starting JobExchanger32

If the default values have been used during installation you can start JobExchanger32 as follows:

- open group *Motoman* in program manager
- select JobExchanger32

If the language dialog appears select your language out of the list of available languages.

CHAPTER 4 *JobExchanger32 Functions*

File menu

Copy

Copies files from PC to robot controller and from robot controller to PC

- Select desired files out of the list (Multiple selections are possible).
- Open [File] menu or context menu and select [Copy] or select the corresponding toolbar

If jobs should be copied as related jobs open [Option]-> [Setup] menu, select tab [General] and activate [Save as related job]

Files can be also easily copied by using Drag and Drop.

Move

Moves files from PC to robot controller and from robot controller to PC.

- Select desired files out of the list (Multiple selections are possible).
- Open [File] menu or context menu and select [Move] or select the corresponding toolbar

If jobs should be copied as related jobs open [Option] menu, select tab [General] and activate [Save as related job]

Files can be also easily moved by using Drag and Drop.

System files cannot be moved from robot controller to PC

Delete

Deletes files on PC or robot controller.

- Select desired files out of the list (Multiple selections are possible).
- Open [File] menu or context menu and select [Delete] or select the corresponding toolbar

System files on robot side cannot be deleted.

If files other than job files (*.jbi) should be handled make sure that the right filetype (*.dat, *.prm, etc.) is selected in the box under the file list box.

Not all system data can be loaded or saved with JobExchanger32. The following table provides information about the possible combinations.

Select all

To select all files in the current file list box (PC or YASNAC). This is also accessible via toolbar and context menu.

Display File contents

To display the contents of a file highlight the desired file in the PC window and select [Display File contents]. The file listing is displayed in the left list box. To return to the previous window select the [Display File contents] menu item again.

Job files can be displayed with or without the job header. If you want to see the job header open the [Options]-> [Setup] menu, select tab [General] and activate [Display/Print Job Header].

This menu item is only enabled if a file on PC side is selected. Displaying the contents of a file on robot controller is not possible. Download file first.

Also accessible via toolbar and context menu.

Print File

If a file listing is displayed in the right list box the [Print File] menu item becomes enabled.

Also accessible via toolbar and context menu.

Exit

To close JobExchanger32 application click [Exit].

The option [Not save current settings] in [Options] -> [Setup] -> [General] determines if the current settings should be saved before closing the application

View menu

Large Icons

Filenames are displayed with large Icons

Also accessible via toolbar and context menu.

Small Icons

Filenames are displayed with small Icons

Also accessible via toolbar and context menu.

List

Filenames are displayed with small Icons sorted in a list

Also accessible via toolbar and context menu.

Details

Filenames are displayed with small Icons sorted in a list with file size, type and date

Also accessible via toolbar and context menu.

Arrange Icons

The files can be sorted by

- Name
- Size
- Date

To sort the file list in the details view, click on the header of the desired column.

Refresh

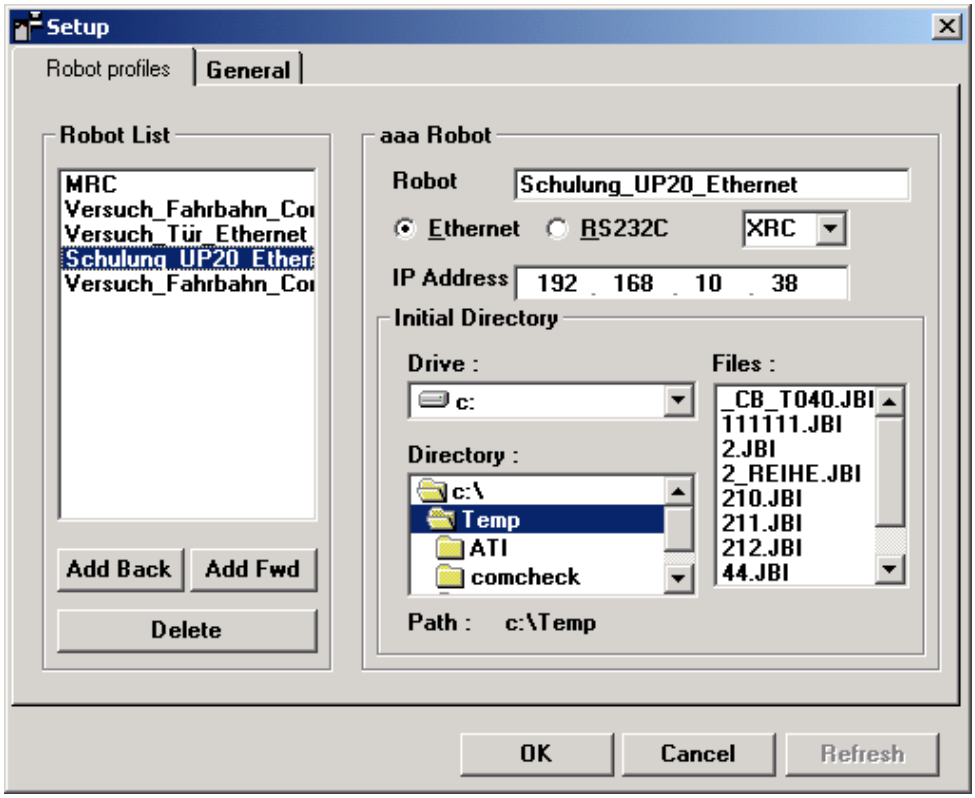
The file list is updated. May be neccessary if file list is edited from outside the application

Also accessible via toolbar and context menu.

Option menu

Setup

Robot profiles



The dialog is used to create robot profiles.

There are two possibilities to make a connection between PC and robot controller.

- Ethernet

- RS232

The following controls are neccessary to administer the robot profiles:

Robot list:

List of available robots

Add Fwd:

Adds an entry after the current selection

Add Back:

Adds an entry before the current selection

Delete:

Deletes the selected robot.

Independent of the communication type (serial or Ethernet) there are some common properties

Robot

Insert name here to identify robot

Initial directory

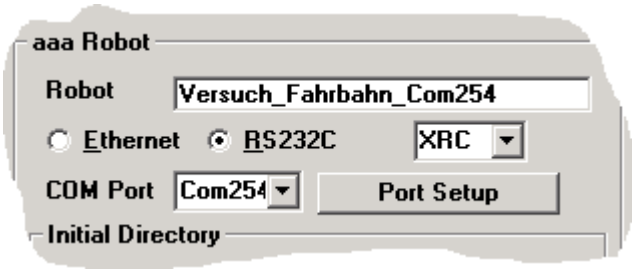
This directory is opened if the robot is selected and the option [Synchro Select Robot and Pc directory] is activated.

Ethernet settings:

IP Address

IP address of the robots Ethernet interface

RS232 settings



Com-Port

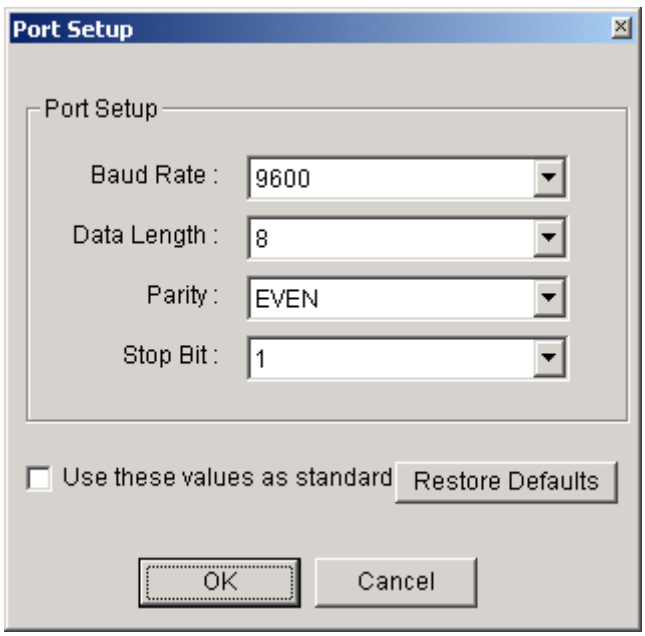
Select the Com-Port, which is connected to the robot controller

Port Setup

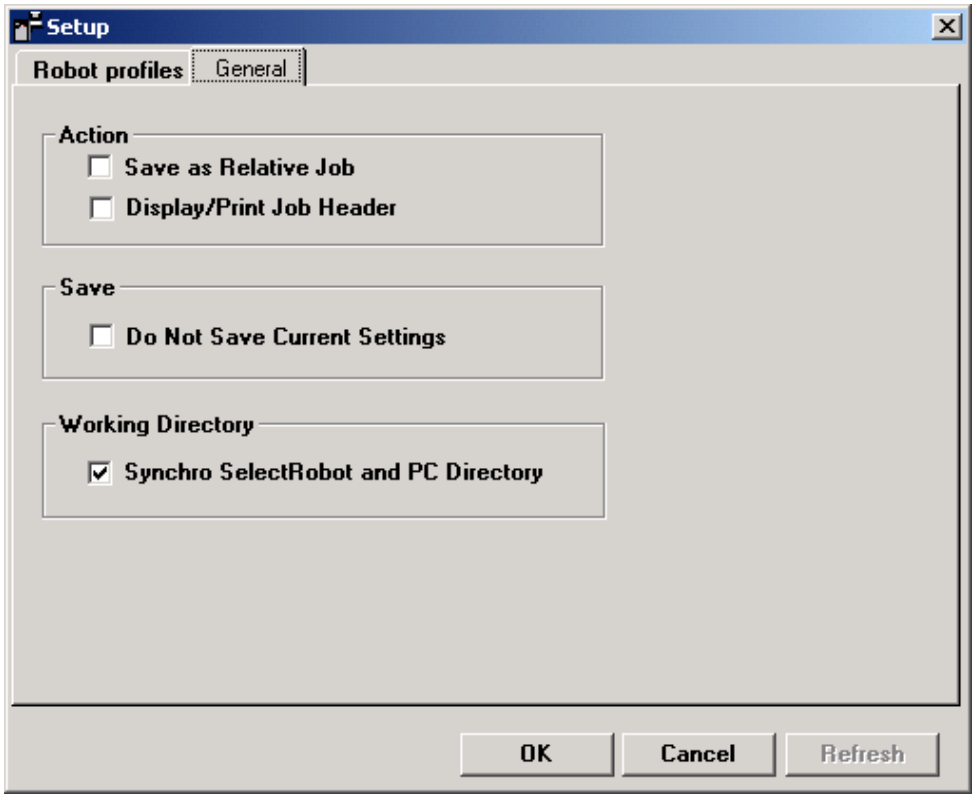
Port number, baud rate, parity, data bits and stop bits must be set according to the corresponding robot controller (see RS parameters of robot controller). These values can be reseted to the default values by clicking on the [Restore Defaults] button.

Controller Type

The type of the robot controller - ERC, MRC, XRC - must be selected here.



General



Save as a related job

If the selected job has calls to other jobs these jobs are saved together with the main job in one file with the ending (*.jbr).

Display/Print job header

If this option is activated the header of the job is displayed

Not save current settings

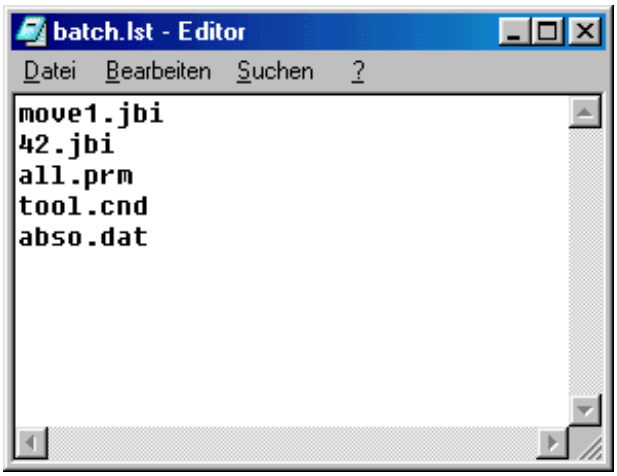
Check this option if the current settings should not be saved before closing the application. So at the next application start the old values will be restored.

Syncro Select Robot and PC Directory

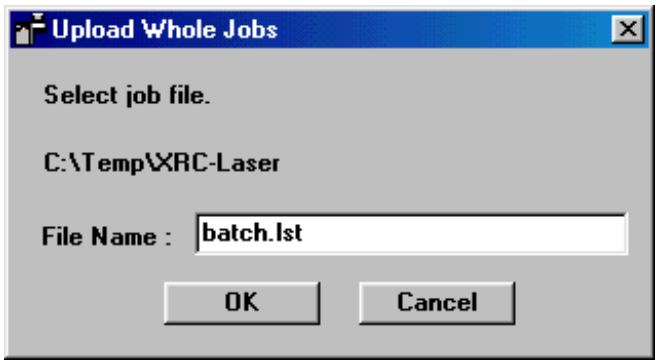
If this option is checked the working directory is always set according to the current robot.

Upload Batch Jobs...

If multiple files should be saved (YASNAC -> PC) the files can be grouped to a batch file (*.lst):



Every time these file group should be saved you can easily use this file.



Download Batch Jobs.

If multiple files should be loaded (PC -> YASNAC) the files can be added to a batch file (*.lst).

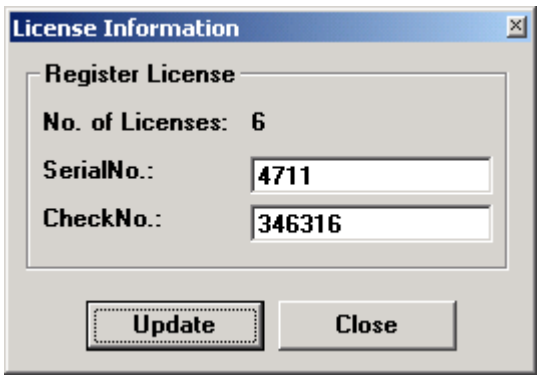
Language selection ...

JobExchanger supports multi-language. For every supported language a special language file (*.lng) is needed in the application path. The language

file can be edited with an standard ascii editor. So new languages can be added easily. After starting the application the language dialog is displayed..

If the language dialog is not neccessary at the beginning of the application you can check the [Ignore language selection] option.

Register licenses...



In the standard package of Jobexchanger32 4 licenses are included. That means a maximum of 4 robot profiles can be created. If more robots are neccessary additional licenses are available. The dialog is neccessary to update license information. Fill in the serial number of your product and a check number, which you will get after purchasing the license fee.

Help

The help menu should be accessed if there are problems or questions concerning the functions of JobExchanger32.

CHAPTER 5 *Working with JobExchanger 32*

Starting Application

Make sure that robot controller is in Remote Mode.

If the default values have been used during installation you can start MotoAdmin as follows:

- open group Motoman in program manager
- select JobExchanger

If the language dialog appears select your language out of the list of available languages.

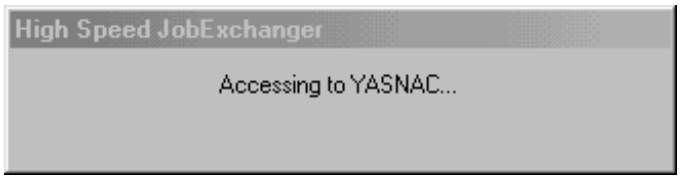
After each application start you are asked to "Read job list from YASNAC". At the first application start you can answer this question with no, because no configuration is done yet. Select [Option] -> [Setup] to add one or robot configurations.

In the next step you have to select the desired robot out of the list of predefined robots

Make sure the desired directory is opened on PC side.

To get data from the robot controller click on the right YASNAC list box or on the icon .

The box gets highlighted with a colored border. Select [View]-> [Refresh]. The following message appears:.



In case of successful data transmission a list of available robot files appears in the right box.

Saving and Loading Files

For loading and saving files refer to chapter File menu.

Not all system data can be loaded or saved with JobExchanger32. While all jobs can be loaded, the most system files like parametrs etc. cannot be loaded. In this cases use FDDWIN32 software.

After saving files to the PC you can display and print file contents.

CHAPTER 6 *Troubleshooting*

Communication error

Check transmission cable and settings at YASNAC controller.

CompCom Option is missing

The computer communication option must be installed

Wrong serial port setup

You have to adjust the port settings of the PC side serial interface to the settings of yasnac serial interface. See RS parameters.

No REMOTE mode

Remote mode is not slected at YASNAC controller.

Select Remote mode. If Remote Mode is not available check if CompCom option is installed.

Hardware key is missing

Check if hardware key is installed correctly at the parallel port.

If there is more then one parallel port try each port.

Check parallel port. Try to use a printer cable.

Windows NT/2000

For Windows NT/2000 a driver is necessary. This driver is installed automatically during software installation. Check if driver is installed.

Error: BscDeleteJob (2080)

This error appears, if you try to delete or load files on yascnac controller, while Teach mode is not activated.

Run-time error ’367’

Run-time error ’367’. Can’t load (or register) custom controller COMCTL32.DLL

OLEAUT32.DLL

Reinstall Jobexchanger32 software.

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